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REMARKS

Claims 3-6 and 8-20 are pending in this application.

Claims 3-6 and 8-20 are rejected.

The office action dated January 24, 2003 indicates that claims 8 and 18 are rejected under 35 U.S.C. §102(e) as being unpatentable over Acharya et al. U.S. Patent No. 6,348,929. In a response dated March 19, 2003, this rejection was traversed on the grounds that Acharya et al. do not teach or suggest generating a full color image from an image having less than full color information at each pixel.

The advisory action dated March 28, 2003 maintained this rejection, pointing out that claim 8 doesn't recite producing full color information at each pixel, but only producing a full color digital image.

Claim 8 has been amended to recite "applying the operator to the input vectors to produce full color at each of a plurality of pixels of the digital image."

Acharya et al. do not teach or suggest this limitation. Acharya et al. disclose a method for downscaling an original image in its color filter array (CFA) form. Figure 2 of Acharya et al. illustrates a type of CFA pattern known as a Bayer pattern, which is generated by repeating a 2x2 sensor array kernel having two green sensors, one red sensor, and one blue sensor. Each pixel of the original image provides information about one color only (red or green or blue).

Each pixel of the downscaled image provides information about one color only. Figures 2-5(d) of Acharya et al. show only a single color at each pixel. Moreover, at column 11, lines 2-4, Acharya et al. state that the "scaled image pixels will have a color plane distribution pattern such as the Bayer pattern that is

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identical to the original CFA." Thus each pixel of the scaled image provides only one of red, green and blue color information.

The advisory action states that "it's clear that the images output by [Acharya et al.'s] system are full color images, thus full color is produced at each pixel or else the resultant images would not be a full color signal." Unfortunately, the advisory action does not cite a passage that supports this statement, nor does the advisory action explain why it is so clear. It only offers circular reasoning. If this basis for this rejection is repeated in the next office action, the examiner is respectfully requested to cite the column and line numbers supporting the statement. The examiner is also respectfully requested to reconcile the statement with col. 11, lines 2-4 of Acharya et al.

Acharya et al. do not teach or suggest any sort of demosaicing operation that would produce an image having full color information at each of a plurality of pixels from an image having less than full color information at each pixel.

And if Acharya et al. do not teach or suggest demosaicing, they certainly do not teach or suggest an operator having demosaicing weights that are determined by at least one property of an optical system.

The weights described in Acharya et al. are for downscaling an image, not for demosaicing an image. Claim 8 has been further amended to clarify that values of demosaicing weights are determined by at least one property of the optical system demosaicing weights.

For these reasons, claim 8 and its dependent claims 3-6 and 9-17 should be allowed over Acharya et al alone.

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Claims 21-25 have been added to the application. These claims depend from claim 8.

Claim 18 recites a method of generating a transformation matrix for demosaicing a digital image. The method comprises using camera parameters to design coefficients for the transformation matrix.

Acharya et al. do not teach or suggest demosaicing operators, let alone the use of camera parameters to generate coefficients of demosaicing operators. They only disclose filter tap coefficients for downscaling an image. Moreover, Acharya et al. do not disclose a methodology for obtaining values for the filter taps, they only give exemplary weights (see, e.g., col. 7, line 26). Therefore, claim 18 and its dependent claims 19-20 should be allowed over Acharya et al.

Claim 26 has also been added to the application. This claim, which depends from claim 18, recites that the camera parameters are used so that the coefficients are designed to perform both demosaicing and compensation of image degradation by the digital camera. Acharya et al. do not teach, hint or remotely suggest demosaicing coefficients that are designed to perform both demosaicing and compensation of image degradation. For this additional reason, claim 26 should be allowed over Acharya et al.

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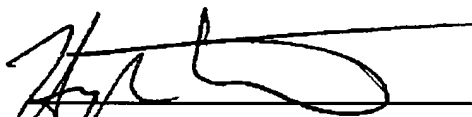
The examiner is respectfully requested to withdraw the rejections of the claims and issue a notice of allowability. If any issues remain, the examiner is invited to contact the undersigned.

Respectfully submitted,



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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on June 18, 2003.



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